## Title of the Talk: Modelling Power System Restoration Speaker's name: Feng Qiu (From Argonne)

**Background Information:** Argonne is managed by University of Chicago. Basically, its industries include resource, supply generation, transmission, distribution.

## **Successful Cases:**

## 1. MISO GAS/ELECTRIC ISSUE

developed NERC-certified training course for MISO system operator on natural gas and electric coordination.

Trained over 600 MISO grid operators electrics/gas interdependencies as part of 2015 and October 2016.

geared toward creating a greater awareness of electric-gas emergency scenarios and vulnerabilities in MISO and NERC footprint.

Similar training will be prepared for other RCS in 2017.

## 2. Support FEMA Regional Power Outage Exercises

enable resilience stakeholders to consider restoration/recovery aspects for more effective emergency preparedness exercises.

EPfast for impact/outage analysis, EGRIP to find optimal restoration plan that minimizes the overall power system restoration time.

DHS/FEMA Region 5: Grid impacts and response/recovery/restoration from large-scale cyber attack.